Questions from Representative Henry Brown
Hearing on HR 1769, "Endangered Salmon Predation Prevention Act"
August 2, 2007

1. You mention in your written response that California sea lions likely achieved its Optimum Sustainable Population (OSP) level in 1997. Does reaching this level allow the agency to take management actions it couldn't take if the population was below this level?

As mentioned in our testimony, there are two options for addressing California sea lions at Bonneville Dam in addition to granting lethal take authority to the states under section 120. Section 101 allows the Secretary to waive the MMPA take moratorium for populations at OSP, using a formal rulemaking process. Section 109 provides for a return of management authority to the states, and requires the states to take on many of the management responsibilities now performed by NMFS, including making a determination that populations are at OSP before lethally removing animals. The states did not request either of these options. In addition, these options are broader than necessary to address the situation at Bonneville Dam. They require more process and are potentially very time-consuming, making them less practical in cases where a swift response is required to avoid an emerging problem.

2. In your testimony, you state certain principles should be considered to address the sea lion-salmon conflict, including the comment that only a minimum number of pinnipeds should be removed. What is a minimum number of animals? How would the agency come up with a minimum number?

NMFS would not initially estimate a minimum number of animals that would be taken, except as an upper limit on the total that could be taken. For example, in the states' application for sea lions at Bonneville Dam, they propose the removal of no more than about 80 animals in the first year, with the number expected to decline in subsequent years. We would remove only as many animals as necessary to solve the problem. Removal would be staged so that after an initial effort of removing problem animals, the agencies would evaluate the effectiveness of those removals before proceeding with more.

3. Do you think it is possible to further manage the other impacts - fisheries, hatcheries, dams, and habitat - to reduce their impact on the salmon and steelhead? Can you give an estimate of the costs and benefits for any additional management actions for these other impacts?

We believe it is possible to reduce other impacts on listed Columbia River salmon, and federal, state, and tribal agencies constantly adjust their actions (and those of the regulated community) to that end. The decline of Columbia River salmon has been caused by hydropower operations, habitat alteration and degradation, water withdrawals, contaminants, hatchery practices, and harvest. Hundreds of millions of dollars are spent annually to increase salmon and steelhead survival rates in all these areas. While most reasonable and practical adjustments have been made to the well understood sources of mortality, management options can and do evolve in light of new evidence from research and monitoring. Predation by California sea lions below Bonneville dam is one example of an emerging source of mortality. There has been no comprehensive analysis of the cost-benefit ratio for the various management actions.

4. What is the mortality rate of salmon and steelhead stocks from the other impacts - fisheries, hatcheries, dams, and habitat?

Some types of actions, such as hydropower operations and harvest, lend themselves better to estimating mortality than other types of actions, such as road-building or water withdrawals. As a result, specific mortality rates are known only for some actions. For example, one stock that is particularly affected by sea lion predation at Bonneville Dam is Snake River spring Chinook. The harvest rate on this stock in 2007 in the Columbia River was about 1.5 percent in the states' recreational and commercial fisheries and about 7 percent in tribal fisheries. We can provide additional information on other stocks and other actions if the Subcommittee desires.

5. How effective is a recovery plan if all but one impact is addressed in the plan?

The answer depends on how important that one impact is to the survival and recovery of the species. Salmon and steelhead recovery plans identify scores of actions to address the wide range of factors limiting each population. Missing one critical factor may render the plan ineffective while missing several lesser factors may mean little. As a general matter, actions that affect multiple salmon populations – such as mainstem passage/predation/harvest – warrant critical consideration since they may present a unique opportunity to maximize conservation benefits for an entire species and even multiple species.

6. There were a number of different sea lion predation levels or percentages provided in testimony for the hearing. Can you clarify the predation levels and percentages for sea lions at the Bonneville dam? Can you state which numbers are for specific salmon or steelhead runs or if the predation levels or percentages are totals for all returning runs at the dam?

The U.S. Army Corps of Engineers has been monitoring the sea lion predation rate on adult salmonids in the vicinity of Bonneville dam since the spring of 2002. The Corps' data represent observed pinniped takes of adult salmonids from the dam to a point ½ mile downstream during each spring migration (January – May). As indicated in our testimony, it is likely that many additional takes went unobserved, occurring under water or at times or locations where observation was not possible, so the actual impact of pinniped predation on these runs is almost certainly higher than observed.

	2002	**2003**	**2004**	**2005**	**2006**	**2007**
Total Salmonid Run	284,733	217,185	186,804	82,006	105,063	88,474
Total Estimated Salmonid Take by Pinnipeds	1,010	2,329	3,533	2,920+	3,023	3,859
% of Salmonid Run Taken by Pinnipeds	0.4%	1.1%	1.9%	3.4%	2.8%	4.2%

It is difficult to determine whether a salmonid observed taken is a spring Chinook salmon or a winter steelhead. However, during the observation period most salmonids passing Bonneville Dam are at-risk Snake River and Upper Columbia River stocks of Chinook salmon.

7. Is stress an issue for migrating salmon? Can the agency quantify how each activity - fisheries, dams, hatcheries, habitat, and predation - may stress migrating salmon and steelhead?

Stress can be an issue for both juvenile and adult salmon. While it is possible to measure various stress indicators in individual fish (e.g., hormone levels in blood chemistry), it is not possible to

quantify and rank the cited activities due to the innumerable ways that fish experience them. Considerable research has been done to assess the sources and mechanisms of stressors and how to minimize their impacts. For example, juvenile stress has been extensively measured at passage facilities at the dams and steps taken to minimize or eliminate it through various passage routes. To diminish stress for adult fish, fishing regulations often require barbless hooks and netting restrictions designed to speed the release of threatened salmon; dam passage systems (including barging) are constantly being updated and re-designed to reduce stress on migrating fish; and a variety of anti-predator measures are in place (especially near dams) to reduce the density and efficiency of predatory fish and birds.

8. It has been 10 months since your agency received the application from the States asking for a lethal removal authorization. NMFS issued a lethal take authorization to the State of Washington in 1995 in a six month period. What is the difference between the 1995 process and the one occurring now?

NMFS' letter of authorization for lethal removal of California sea lions at the Ballard Locks was conditioned on the state taking a number of non-lethal deterrence measures first, including the use of acoustic barriers and documenting, identifying, and reviewing with NMFS individually identifiable predatory animals and methods for capturing and holding them. In March of 1996 – 14 months later –the authorization was significantly modified to allow the state to remove specific animals, which they did in May 1996.

In the case of the current application, extensive use of non-lethal deterrence measures was tried during the months sea lions were preying on salmon at Bonneville Dam (from about March to May) in 2005 and 2006 before the application was filed. This was undertaken in the hope of avoiding the need for a section 120 process. Additional non-lethal deterrence measures were carried out in 2007, after the application was received. The application was received on December 5, 2006. At that time, NMFS concluded that it was unlikely that the section 120 process could be completed in time to take meaningful action during the March to May period when sea lions were expected to be present in 2007. This conclusion was based upon estimates of the time required to identify and recruit members of the Task Force, the impact of the holiday season, the availability of Task Force members on short notice for an initial meeting, the 60-day period for panel review and recommendation, and the time needed for subsequent administrative process and potential NEPA compliance. For that reason, the current section 120 process was placed on a schedule allowing completion of its work in time for implementation of recommended actions during the 2008 period of sea lion predation at Bonneville Dam.

9. With the 1995 application, what actions did the agency take with regard to the National Environmental Policy Act (NEPA) at that time? Do you expect the NEPA process for the 2006 application to be similar to that used in 1995? If no, why?

NMFS prepared two environmental assessments under NEPA associated with its letters of authorization, issued in 1995 and 1996, to Washington for sea lions at Ballard Locks. Following implementation of the first letter of authorization, the Ballard Locks pinniped-fishery interaction task force reconvened to evaluate the 1995 action and substantially altered its recommendations for 1996. Because the letter of authorization was significantly modified as a result of task force suggestions and agency determinations, the agency prepared a second EA. The scope of environmental analysis required in the Columbia River will depend on what actions the task force recommends. For now, we are proceeding with the preparation of an environmental

assessment. Although we expect to complete NEPA in a timely manner, that does not guarantee an equally timely implementation of management actions resulting from the section 120 process. One potential delay could involve a legal challenge under the MMPA and NEPA to NMFS' decision to approve or deny the States' section 120 application. It is possible that such proceedings, even if they delay implementation for only a few months, could preclude taking meaningful action in 2008 during the time that sea lions are present.

10. Do you believe the MMPA requires the agency to use sound science or the best available science for all of its management actions?

Sections 101, 103, 115, and 117 of the MMPA expressly require the agency to use "best available scientific information" or "best scientific evidence available". Other sections, including section 120, are silent regarding the applicable standard. However, NMFS believes that it is good practice to be guided by the best available scientific information and would anticipate doing so in applying section 120.

11. Do you think public comment periods allow enough of an opportunity for the agency to get comments from outside groups on the use of science with regard to the agency's management actions?

Generally, yes. However, in the case of pinniped removal authority, the only opportunity built into the process under MMPA section 120 results from the agency's notice that it has determined the state's application warranted establishing a pinniped-fishery interaction task force. There is no other comment period built into the process, and the tight timelines within section 120 discourage NMFS from seeking meaningful public input on task force recommendations or NMFS' final decision on the application. The states' application was made available for public review and comment. Comments received from this initial solicitation will be made available to the Task Force for their consideration.

12. Do you think H.R. 1769 would restrict the agency from getting outside scientific comments?

The 90-day deadline for this determination, the 30-day deadline for approval or denial of an application, and the waiver of NEPA will limit the time for scientific discussions with external scientific experts but will not preclude such discussions. During the 30-day period for considering an application, NMFS would likely consult with outside experts, such as the Marine Mammal Commission and its Committee of Scientific Advisors. I also believe that NMFS has sufficient scientific expertise to make the necessary decisions in a responsible manner.

13. H.R. 1769 would require the Secretary and an eligible entity to make determinations that sea lions have preyed on listed Columbia River salmon stocks and that non-lethal alternatives have been ineffective in deterring sea lion predation. Is there currently enough information to allow the Secretary or eligible entity to make the determination that predation has occurred and that non-lethal alternatives have been ineffective? Should the Secretary and the states or tribes be required to make the same determination?

There is currently enough information to make a determination, as required by HR 1769, whether "alternative measures to reduce sea lion predation" on Columbia River ESA-listed salmon "adequately protect [them] from California sea lion predation." NMFS has not made such a

determination at this time because section 120 of the MMPA contemplates that a task force will advise the agency on these questions before the agency makes a determination.

Under HR 1769, the determinations that must be made by permit holders are specific to individual sea lions. The permit holders must (1) determine that a specific sea lion has preyed upon salmonids and (2) that non-lethal measures were ineffective for that individual. Currently available information would allow a permit holder to make the required determinations for only some specific sea lions. As Mr. Brown noted in his answers to questions, about one third of the animals that occupy the vicinity of the dam have been tagged or branded or have natural markings allowing individual identification. The remaining animals have not been branded and do not have distinctive markings that would allow individual identification at this time.

14. The Federal and state agencies have been monitoring the number of sea lions preying on listed salmon in the Columbia River Basin for many years. NMFS reported in January, that 1,000 California sea lions had been captured and 621 were branded with "C" markings. Would these branded animals make up the list of predatory or problem sea lions that could be listed for lethal removal?

No. The large number of sea lions that have been branded in the Columbia River were mostly caught and branded near the mouth of the river in Astoria. Of these animals, only a small portion of them have migrated up the river to prey upon salmonids at Bonneville Dam. Only in the last two or three years have capture operations moved up to Bonneville Dam to aid in identifying animals frequenting that area. Only about one third of the animals that occupy the area near the dam have been branded or have distinctive natural markings. Therefore, not all branded animals would be targets for lethal removal, and some of the animals that prey on salmonids at the dam have not been marked.

Questions from Representative Cathy McMorris Rodgers

1. Washington Department of Fish and Wildlife (WDFW) applied to the Secretary of Commerce under Section 120 of the Marine Mammal Protection Act for authorization to lethally take California sea lions at the Ballard Locks in June of 1994. In January of 1995, following the recommendations of a Pinniped-Fishery Interaction Task Force, the Secretary of Commerce approved WDFW's request. What was the outcome at Ballard Locks? Were any California sea lions taken lethally? If not, why not? What is the current state of the winter steelhead run at Ballard Locks?

The letter of authorization issued to WDFW in 1995 authorized lethal removal only after the state had tested the use of a non-lethal alternative, capture-hold-and-release. For this alternative, the state captured one sea lion and held it at a state facility during the 1995 steelhead run and released it in June 1995 following the run. NMFS re-convened the Task Force to review the actions under the letter of authorization in 1995, to evaluate success of these actions, and, if necessary, to recommend modifications to the authorization. In November 1995, the Task Force issued a recommendation to NMFS to modify the letter of authorization by removing the capture-and-hold requirement. NMFS issued a modified letter of authorization to the WDFW in March 1996. Under the modified authorization, WDFW captured three predatory sea lions with the intent of euthanizing them. Upon their capture, however, SeaWorld of Orlando offered to take these three sea lions into permanent captivity for public display. NMFS transferred the three sea lions to SeaWorld (at SeaWorld's expense). Although three sea lions were permanently removed from the population, no sea lions were killed under the letter. A fourth predatory sea lion (branded and regularly seen at Ballard Locks) disappeared and was never sighted again. Non-lethal deterrence using acoustic harassment devices was intensified and continued following removal of these predatory animals, and sea lion presence in the immediate area of the fish ladder diminished almost to zero. It is important to note that, by this time, the number of steelhead at Ballard Locks was very low, due in part to previous predation by sea lions. Although the authorization was valid for a 5-year period and was extended in 1999 for another 5 years, no additional sea lions were removed. The steelhead run has subsequently disappeared.

2. We have learned that NMFS has finally appointed a Pinniped-Fishery Task Force in response to the section 120 application by the Washington Department of Fish and Wildlife, the Oregon Department of Fish and Wildlife, and the Idaho Department of Fish and Game submitted nearly eight moths ago. It is my understanding that the Task Force will be convened in September, the recommendations will be issued by the Task Force within 60 days of its convening, and the application will be approved or denied within 30 days of the recommendations. It is also my understanding that NMFS expects the NEPA process to be completed by January of 2008. Does this mean that, if the Task Force recommends the lethal take of certain California sea lions and the section 120 application is ultimately approved, the lethal take authorized by the permit would occur in the spring of 2008? How might the section 120 process be delayed? How might the NEPA process be delayed? Is there anything else that would prevent the lethal take authority from being carried out in time to respond to the sea lion predation during the spring 2008 salmon run?

It is not a foregone conclusion that the Task Force will recommend lethal removal. If the Task Force does recommend approval of the application, and NMFS approves the application, we would expect that lethal removal of selected sea lions could begin coincident with the beginning of the salmon runs in spring 2008. Although we do not expect delays during the 120 process at

this time, it is possible that a delay could occur from an unexpected source, such as a major mortality event in the sea lion or salmon populations that diverted a substantial portion of the expertise of the Task Force from the application. Similarly, we do not anticipate a delay in completing the NEPA process – which must be complete prior to NMFS' final decision on the application. Again, however, some unexpected major event affecting salmon, sea lions, or another resource in the affected human environment could delay the analyses of impact of various alternatives.

Finally, any decision to allow lethal removal of pinnipeds could also subject NMFS to legal challenge under the MMPA and NEPA resulting in a delay of implementation. In particular, the impact of a NEPA process on a section 120 application includes not only the time required to complete the document, but also the potential that litigants may challenge NMFS' NEPA analysis. In the case of Ballard Locks, despite discussions and actions taken to avoid potential lawsuits that added significant additional time to the implementation of removal actions there was still litigation brought under both the MMPA and NEPA seeking to stop the action.